c) a primary spring deployed to bias said drawing implement to a forward position in which said normally-closed switch is closed;

wherein said transmitter device is deployed to initiate transmission of a sequence of pulses in response to opening of said normally-closed switch.

REMARKS

2-3. 35 U.S.C. § 103. Rejections.

5. The Examiner has rejected Claims 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Epperson (U. S. Pat. No. 4,667,182) in view of Murphy (U. S. Pat. No. 4,667,182).

a) In regard to Claim 29, The Examiner stated that "Epperson teaches a transmitter device (1, Fig. (8)) for use with a system for digitizing operative keystrokes of a drawing implement, the drawing implement having a body and an operative tip, and a rear end opposite the operative tip, the transmitter device comprising a housing having a front end and a rear end, the front end having an aperture, the housing including a removable cover portion for receiving a portion of the body of the drawing implement within the housing, with the operative drawing tip extending through the aperture (Fig. 1-5; Summary, col. 2, line 54 - col. 5, line 50); a normally closed switch deployed so as to be opened by relative movement between the drawing implement and the housing resulting from the pressure applied to the operative tip (Fig. 1-5; col. 2, line 54 - col. 3, line 2)".

The Examiner conceded that Epperson does not teach a primary spring deployed to bias the drawing implement to a forward position when the normally closed switch is closed.

However, the Examiner stated that Murphy teaches the stylus with a primary spring deployed to bias the drawing implement to a forward position when the normally closed switch is closed (Summary; Figs. 1-5; col. 3, line 36-63, col. 5, lines 14-58)".

Applicant disagrees that Epperson discloses a similar structure to the claimed invention.

Analysis of Epperson. While Epperson discloses a computer input device which includes a marking instrument, there is no disclosure of a "removable cover portion for receiving a portion of the body of the drawing implement within the housing", as suggested by the Examiner. As well, there is no disclosure of a "normally closed switch deployed so as to be opened by relative movement between the drawing implement and the housing resulting from the pressure applied to the operative tip", as suggested by the Examiner.

An overview of the computer input device of Epperson is seen in the Abstract, wherein the disclosed input device:

> "enables the user to capture and store handwritten text and graphics in a precisely controllable manner for subsequent transmission to a computer in a computer readable format. This input device may look and feel like an ordinary writing pen and can function as a writing instrument while it captures that which is written with it."

An further overview of the computer input device of Epperson is seen in the Summary, on col. 2, lines 17-23, wherein the disclosed input device:

> "enables precisely controllable entry of both text and graphics to a computer because it operates in the same manner as the familiar pen or pencil, can be carried unobtrusively in a user's shirt pocket, can store input data created in the course of a day for subsequent transmission to a computer"

The only detachable portion of the computer input device and marking implement of Epperson is a "detachable memory cartridge" (1), as seen in Figure 1, and disclosed in col. 2, lines 56-60, wherein:

> "detachable memory cartridge 1 comprises a module containing either battery backed-up static random access memory (RAM), or FLASH Erasable Programmable Read-only Memory (EPROM), or Ferro-Electric Random Access Memory (FRAM)"

The writing pen of Epperson is disclosed on col. 4, lines 63-68, wherein:

> "The pen input device first described may be comprised of the following subassemblies: (1) a writing pen enclosure of dimensions common to pen or pencil writing instruments, (2) an ink cartridge, including a spring and cartridge-out/cartridge-in mechanism common to writing instruments"

There is no suggestion, express or implied, that the detachable memory cartridge (1) of Epperson be modified to "receive a portion of the body of the drawing implement within the housing". As seen in Fig. (1) of Epperson, the computer input device includes a substantial amount of required components (*e.g.* such as triaxial acceleration sensor (2), electronic signal processing circuit (3), batteries (5)(6), and strain pressure gauge (7)) between the detachable memory cartridge (1) and the marking means (8).

As well, while the data input device includes a marking means (8), there is no suggestion that the front end of the housing be modified to include a "removable cover portion" for receiving a portion of the body of a drawing implement.

Furthermore, while Epperson discloses an "an ink cartridge, including a spring and cartridge-out/cartridge-in mechanism common to writing instruments", there is no suggestion that the ink cartridge is removable, or that the ink cartridge be associated with a normally-closed switch.

Position Signals and Signal Transmission. The computer input device and marking implement of Epperson determines the location of the device, and stores the data, for subsequent transmission of "data" to a base station, as seen Fig. (2), and in col. 3, lines 5-7, wherein:

> "The software represented in FIG. 2 processes the signal coming from the acceleration sensors and stores the results in a memory queue. ... Box 1, [NN Sense Writing Movements], continuously samples signals from the acceleration sensors and determines if said signals represent writing movements. ... In Box 2, if writing signals are detected, then, in Box 3, [NN Convert Coordinates], the X, Y, and Z signals are converted from three-dimensional to two-dimensional coordinate systems and the

location of the tip of the pen is calculated, based on the previous location of the tip of the pen and the current XYZ sensor inputs. ...The resulting XYZ coordinates are passed on to Box 4, where they are converted to Bezier curves and are further compressed, using such techniques such as Run Length Limited (RLL) encoding, or Huffman encoding, among others. The compressed data is passed on to Box 5 where it is stored in a memory queue, and in Box 6 it is noted that new data is available for transmission.

In FIG. 3, Box 1, the memory queue is checked to determine if there is any data to transmit. If there is no data to transmit, control proceeds to Box 2, where, after a suitable delay, it proceeds to Box 1 and repeats itself. If there is data to transmit, it proceeds to Box 3, [Sense Base Station in Range], which checks the radio receiver in Box 4 to determine if the base station signal can be detected. If not, it will proceed to Box 5, where, after a suitable delay, it will return to Box 3 and try again. If there is data to transmit, it will proceed to Box 6, [Get Data to Transmit], where it will get the data from the memory queue, to be assembled into a packet format for transmission, whereupon it proceeds to Box 7, where the data will then be transmitted, and thereupon wait for verification of receipt. In Box 8, if the data was successfully received, it will return to Box 1. If not, then it will return to Box 3."

Therefore, the computer input device and marking implement of Epperson "continuously samples signals from the acceleration sensors and determines if said signals represent writing movements". The software than calculates position data for the writing movements of the tip of the pen, compresses the position data, and stores the position data in a memory queue. The memory queue is periodically checked, to determine if there is any data to transmit. If there is data to transmit, the pen retrieves and transmits the position data from the memory queue, if a base station signal is detected. The data to be transmitted is assembled into a packet format for transmission.

The use of sensors and signal processing for Epperson is disclosed in col. 4, lines 1-6, wherein:

"acceleration sensors are positioned at or near the back end of the pen input device to sense movement of the pen's back end in three dimensions. An additional sensor may be used specifically to determine if the writing end of the pen is touching the writing surface. The outputs from each of these three sensors are fed individually to the Analog Signal Conditioning circuitry, where they are amplified, noise attenuated and further appropriately conditioned for use by the A/D Converters. The A/D Converters will convert signals of useful strength to digital bit information."

While Epperson discloses the use of sensors "to sense movement of the pen's back end in three dimensions", and "to determine if the writing end of the pen is touching the writing surface", there is no disclosure that a "normally closed switch is deployed so as to be opened by relative movement between the drawing implement and the housing resulting from the pressure applied to the operative drawing tip", as suggested by the Examiner. As discussed above, there is absolutely no disclosure of a "normally closed switch" in Epperson.

As well, in Epperson, position data is processed and stored in a memory queue. Subsequent transmission of position data is dependent on whether "a base station signal is detected", wherein data to be transmitted is assembled into a packet format before transmission.

In response to the Examiner's rejection, to more particularly point out and distinctly claim the invention, Applicant has amended Claim 29, to more specifically state that the transmitter device is "deployed to initiate transmission of a sequence of pulses in response to opening of the normally-closed switch", (wherein the normally-closed switch is opened by the onset of relative movement between the drawing implement and the housing resulting from pressure applied to the operative drawing tip). Support is seen in the Application as filed, on page 23, lines 15-16, and on page 5, lines 10-14, wherein:

"the transmitter is associated with a drawing implement which includes a contact switch for identifying operative contact between the drawing

implement and a surface, the sequence of pulses being initiated in response to identification of the operative contact"

Applicant submits there is no new matter.

In stark contrast to the present invention, as cited in Claim 29, as amended, Epperson discloses the storage of position data, which is subsequently retrieved from memory, compressed, and transmitted if "a base station signal is detected". Epperson does not disclose the transmission of a "sequence of pulses", wherein the transmission is initiated in response to the opening of a normally-closed switch, wherein the normally-closed switch is opened by the onset of relative movement between the drawing implement and the housing resulting from pressure applied to the operative drawing tip.

As well, it would take significant modification and undue experimentation to the input device and drawing instrument of Epperson to meet the transmitter device of Claim 29, amended.

Therefore, Applicant submits that Claim 29, as amended, overcomes the Examiner's rejection under 35 U.S.C. § 103(a) as being unpatentable over Epperson (U. S. Pat. No. 4,667,182) in view of Murphy (U. S. Pat. No. 4,667,182).

Applicant submits that, as dependent claim 30 and 31 depend upon Claim 29, and inherently contain all the limitations of Claim 29, they are seen to be patentable as well.

Murphy. The Examiner stated that Murphy teaches "a stylus with a primary spring deployed to bias the drawing implement to a forward position when the normally closed switch is closed (Summary; Figs. 1-5; col. 3, line 36-63, col. 5, lines 14-58)".

Applicant submits that Murphy clearly discloses a non-writing stylus, which does not include a drawing tip. Furthermore, while the stylus of Murphy includes a tip switch mechanism (6), Murphy is silent in regard to the use of a normally-closed switch.

Analysis of Murphy. In Murphy, as seen in Fig. (1), Fig. (2), Fig. (3) and Fig. (5), a non-writing stylus tip (5) is supported on a moving tip support (18), which is slidably mounted in a tip switch mechanism (6). The non-writing retractable stylus tip (5), the moving tip support (18), and the tip switch mechanism (6) are contained within the lead end of a complex stylus device, which also includes an extensive "inertial mass assembly" typically comprised of structural elements (2),(3),(4),(9), and (10). There is no suggestion, express or implied, that the housing (1) of Murphy is "configured to receive a portion of a "drawing implement".

Use of Stylus. Murphy summarizes the defined use of the stylus, in the "SUMMARY OF THE INVENTION", on col. 2, lines 36-43, wherein:

> "A stylus for interactive use with a graphics input tablet, according to the invention, comprises an elongated body portion, a stylus tip for **pointing** to locations on the tablet during said interactive use, and sensing means to indicate when said stylus tip passes through an 'in-presence boundary' of said tablet beyond which the distance is too great for reliable interaction between the stylus and tablet to occur..."

Murphy discloses the use of the stylus tip further, on col. 3, lines 39-48, wherein:

> "Each stylus is provided at its lower end with a spring loaded retractable stylus tip (5) which, when depressed into the body of the stylus against the spring pressure, activates a tip switch mechanism (6). It is by this means that a user signals the usual input action to the workstation such as by for example:
>
> (1) note the (x,y) coordinate values of this point;
>
> (2) this is the required menu option selected for the next operation; and
>
> (3) note the current position of the screen cursor.

Therefore, while Murphy discloses the use of a stylus as a pointing device for interactive use with a "graphics input tablet", there is absolutely no disclosure

that the stylus be used in conjunction with a hand-held "drawing" implement, wherein the operative tip is a "drawing" tip.

In stark contrast to the pointing stylus disclosed by Murphy, Applicant has disclosed that the transmitter device is used "for use with a system for digitizing operative strokes of a hand-held **drawing** implement". Support can be seen in the Application as filed, on Page 5, lines 10-12, wherein:

> "the transmitter is associated with a drawing implement which includes a contact switch for identifying operative contact between the drawing implement and a surface..."

Additional support can be seen in the Application as filed, on Page 8, lines 2-4, wherein:

> "There is also provided according to the teachings of the present invention a transmitter device for digitizing operative strokes of a hand-held drawing implement, the drawing implement having a body and an operative tip..."

Further support is seen in the Application as filed, in Figure 8, and as described on page 21, line 12 to page 23 line 10. In particular, in regard to various drawing implements which may be used in conjunction with the claimed invention, Applicant refers to "marker type drawing implements" on page 23, line 5; to "pen color" on page 23, line 9; and to "drawing implements such as pens or erasers", on page 23, line 13.

Use of Switches. Murphy summarizes the basic use of pressure-sensitive switches in the background, on col. 1, lines 32-38, wherein:

> " A stylus typically incorporates a pressure-sensitive switch which **closes** when the user pushes the stylus against the tablet, or alternately a button on the side of the stylus which can be operated at any time by the user, either of which are used to indicate to the application program being run on the graphics system that the stylus is at a position of interest."

Murphy then discloses the use of switches In the various embodiments, on col. 3, lines 39-43, wherein:

> "Each stylus is provided at its lower end with a spring loaded retractable stylus tip (5) which, when depressed into the body of the stylus against the spring pressure, activates a tip switch mechanism (6)."

Murphy provides further disclosure of the tip switch mechanism (6), on col. 5, lines 14-17, wherein:

> "The stylus body (1) of molded plastic material is provided with a retractable stylus tip (5) supported on a moving tip support (18) slidable mounted on a tip switch mechanism (6). The stylus tip is normally held protruding from the stylus end by means of a tip switch return spring (19) carried by the tip support (18) and bearing between the tip switch mechanism (6) and an annular shoulder (20) on the support (18). Connecting wires (21) to the tip switch mechanism (6) are molded into the body of the stylus and connected to the tablet controller via the flexible connector (8)."

Therefore, while Murphy discloses the use of a tip switch mechanism (6), in conjunction with retractable stylus tip (5) supported on a moving tip support (18), there is no disclosure that the tip switch mechanism (6) is deployed in relation to a drawing implement, or that the switch mechanism is a "normally-closed" switch. In addition, as Murphy explains in the background of the invention, as described above, "a stylus typically incorporates a pressure-sensitive switch which **closes** when the user pushes the stylus against the tablet".

In stark contrast to the tip switch mechanism (6) of Murphy, Applicant has advantageously provided a "normally-closed" switch, which is deployed so as to be **opened** by relative movement of a drawing implement. The use of a normally-closed switch is shown in the Application as filed, on page 8, lines 7-9, and described in detail on page 21, line 16 to page 22, line 6, wherein:

"A particular feature of transmitter device 60 is that operative contact of the drawing implement tip against a surface is identified by use of a normally-closed switch 68. The term "normally-closed" switch is used to refer to a switch structure in which movement is detected by the breaking of a circuit normally completed by the switch. In this case, normally-closed switch 68 is deployed so as to be opened by relative movement between drawing implement 62 and housing 64 resulting from pressure applied to the operative tip. A primary spring 70 is deployed to bias drawing implement 62 to a forward position in which switch is closed. In contrast to conventional microswitches which switch after a predefined distance of travel, the use of a normally-closed switch provides immediate detection of contact with a surface by detecting the onset of relative movement between the drawing implement and the housing."

Murphy clearly fails to disclose the use of a tip switch mechanism (6) which is deployed in relation to a drawing implement, or that the switch mechanism is a "normally-closed" switch.

In regard to the use of pressure-sensitive switches, Murphy only discloses that "a stylus typically incorporates a pressure-sensitive switch which **closes** when the user pushes the stylus against the tablet" (*i.e.* a normally-open switch). Murphy is silent in regard to the advantageous use of a normally-closed switch, which allows "immediate detection of contact with a surface by detecting the onset of relative movement between the drawing implement and the housing".

Housing Details. While Murphy provides a stylus body (1) which is used for housing a stylus tip structure and various embodiments of inertial mass structures, Murphy fails to disclose a structure for housing a drawing implement. Murphy discloses details of various stylus embodiments on col. 3, lines 35-63, wherein:

"FIGS. 1, 2 and 3 show schematically a stylus comprising an elongated body portion (1) containing an inertial mass (2) which can move in one direction or the other axially between end stops (3) and (4) along the body of the stylus. Each stylus is provided at its lower end with a spring loaded retractable stylus tip (5) which, when depressed into the body of

the stylus against the spring pressure, activates a trip switch mechanism (6). ...

Each stylus is provided with a drive mechanism within its body for propelling the inertial mass axially in either direction. A flexible connector (8) connects each stylus to its tablet controller and over which control and sense signals are communicated to and from the stylus."

Murphy also discloses a more detailed structure of a preferred stylus assembly, on col. 5, lines 14-56, wherein:

"The stylus body (1) of molded plastic material is provided with a retractable stylus tip (5) supported on a moving tip support (18) slidable mounted on a tip switch mechanism (6). The stylus tip is normally held protruding from the stylus end by means of a tip switch return spring (19) carried by the tip support (18) and bearing between the tip switch mechanism (6) and an annular shoulder (20) on the support (18). Connecting wires (21) to the tip switch mechanism (6) are molded into the body of the stylus and connected to the tablet controller via the flexible connector (8). ...

The moving mass within the stylus body is provided as in the example described with reference to FIG. (1) by a movable armature driven by a solenoid coil (9) between end stops (3) and (4). In this embodiment, however, the coil is attached to, and moves with the armature core which protrudes from the lower end of the coil. The coil extends beyond the core at the other end and is enclosed in a cover (23) provided as a layer of magnetically permeable material. The upper end stop (3) is also formed of magnetically permeable material and extends into the open end of the solenoid coil (9). Since a return flux for magnetic flux is provided through the outer cover (23), a magnetic gap is defined between the end stop (3) and the adjacent end of the core (2) inside the coil (9). A lower solenoid guide (24) provides lateral constraint for the armature and coil during movement. A rubber protector (25) protects the otherwise exposed ends of the flexible connector (8). In the unenergized state, the armature and coil are held by the force from the solenoid return spring (10) against the lower end stop (4) so that a magnetic gap exists between the upper end of the armature and the end stop (3) as explained

above. A solenoid drive wire (24) is connected to the tablet controller via the connector (8) by means of which the solenoid is energized in response to detection of the "in-presence" condition".

Therefore, each of the stylus embodiments disclosed by Murphy includes an extensive "drive" mechanism within the stylus body for propelling an inertial mass (2) axially in either direction, in response to the position of the stylus, in relation to an "in-presence" region at a distance above a tablet. As seen in Fig. (1), Fig. (2), Fig. (3), and Fig. (5) of Murphy, each of the stylus embodiments includes a retractable stylus tip (5), a moving tip support (18), and a tip switch mechanism (6) located within a confined region at the pointing end of the stylus body (1), while various embodiment of extensive inertial mass assemblies are located within the upper non-pointing region.

In contrast to the housing structure of Murphy, Applicant has specifically provided a housing which is configured "for receiving a portion of the body of a drawing implement, with its operative tip extending through the aperture". Support can be seen in the Application as filed, on Page 8, lines 4-6. As well, Applicant has specifically disclosed a structure by which the housing may receive a portion of the body of a drawing implement, as seen in Figure 8 of the Application as filed, and as disclosed on page 22, line 15, wherein:

"normally closed switch 68 is deployed in a removable cover portion 64a of housing 64"

Further support for the accommodation of a drawing implement within the housing is seen on page 22, lines 9-12, wherein:

"The opposition and alignment of springs 70 and 72 serves to suspend the drawing implement properly aligned within housing 64 and allows the housing to accommodate drawing implements with a range of lengths."

In stark contrast, the moving tip support (18) in Murphy, which includes an annular shoulder 20, and a stylus tip (5), move in relation to a fixed tip switch mechanism (6). As discussed above, the stylus tip (5) in Murphy is used as a

pointing device, and not as a drawing implement. In addition, there is no suggestion, express or implied, that the stylus body be adapted to "receive" a drawing implement, as is disclosed and cited in the present invention.

In contrast to the housing structure of the claimed invention, each of the embodiments of Murphy includes a continuous stylus body (1), and there is no suggestion, express or implied, that the stylus body (1) of Murphy be modified to provide a "removable cover portion for receiving a portion of the body of a drawing implement" within the internal portion of the stylus body. It would therefore require significant modification, not taught in Murphy, to meet the claimed invention, as amended.

Epperson in view of Murphy. Applicant submits that, even in combination, Epperson and Murphy fail to meet Claim 29, as amended. Neither Epperson nor Murphy disclose a "removable cover portion for receiving a portion of the body of the drawing implement within the housing".

As well, neither Epperson nor Murphy disclose a "normally closed switch deployed so as to be opened by relative movement between the drawing implement and the housing resulting from the pressure applied to the operative tip".

In regard to position signals and signal transmission, Epperson discloses the storage of processed "position data", which is subsequently retrieved from memory, compressed, and transmitted if "a base station signal is detected". Murphy discloses a tethered stylus (col. 3, lines 58-63) which provides a tactile response in response to a disclosed "in-presence boundary" which is located above a tablet.

Neither Epperson nor Murphy disclose the transmission of a "sequence of pulses", wherein the transmission is initiated in response to the opening of a normally-closed switch, wherein the normally-closed switch is opened by the onset of relative movement between the drawing implement and the housing resulting from pressure applied to the operative drawing tip.

Applicant therefore submits that it would take significant modification and undue experimentation to the input devices of Epperson and Murphy to meet the transmitter device of Claim 29, amended.

Therefore, Applicant submits that Claim 29, as amended, overcomes the Examiner's rejection under 35 U.S.C. § 103(a) as being unpatentable over the combination of Epperson (U. S. Pat. No. 4,667,182) in view of Murphy (U. S. Pat. No. 4,667,182).

Applicant submits that, as dependent claim 30 and 31 depend upon Claim 29, and inherently contain all the limitations of Claim 29, they are seen to be patentable as well.

b) Specifically regarding Claims 30, the Examiner stated that "Murphy teaches that the transmitter comprises a secondary spring deployed to act upon the drawing implement in a rearward direction so as to suspend the drawing implement within the housing (Fig. 1-5; col. 3, line 36-63, col. 5, lines 14-58).

Applicant disagrees that Murphy discloses a similar spring structure. While Murphy discloses a single tip switch return spring (19) in Fig. (5), which acts between an annular shoulder 20 and a tip switch mechanism (6), there is no suggestion, express or implied, that a secondary spring be used in relation to either the tip switch mechanism (6), the moving tip support (18), or to the retractable stylus tip itself.

In an entirely **different** structure of the stylus disclosed Murphy, as seen in Fig. (5), a solenoid return spring (10) is included within a inertial mass mechanism (2),(3),(4),(9), for an entirely different purpose than to oppose the operation of a first spring (19). Neither the tip switch return spring (19), nor the solenoid return spring (10), are related to a drawing implement, and there is no defined relationship of spring strength between the tip switch return spring (19) and the solenoid return spring (10).

In contrast to the use of springs for entirely different purposes in Murphy, Applicant has disclosed a preferred transmitter device embodiment, as seen in the Application as filed, in Figure 8, and on Page 22, lines 7-14, wherein:

"a secondary spring 72, weaker than the primary spring 70, is deployed to act upon drawing implement 62 in a rearward direction, i.e., tending to retract the operative point. The opposition and alignment of springs 70 and 72 serves to suspend the drawing implement properly aligned within housing 64 and allows the housing to accommodate different drawing implements with a range of lengths. At the same time, the stronger primary spring 70 ensures that switch 68 returns to its closed state whenever contact force is not applied to the operative tip of the drawing implement 62."

Murphy clearly fails to disclose a secondary spring weaker than the primary spring, deployed to act upon a drawing implement in a rearward direction so as to suspend the drawing implement within the housing. As well, there is no suggestion, express or implied, that Murphy be modified to meet the claimed invention.

Applicant therefore submits that Claim 30 clearly overcomes the Examiner's rejection under 35 U.S.C. § 103(a) as being unpatentable over the combination of Epperson (U. S. Pat. No. 4,667,182) in view of Murphy (U. S. Pat. No. 4,667,182).

c) In regard to Claim 31, the Examiner is silent in regard to the claimed "centering element" associated with the primary spring and providing an abutment surface configured to align the rear end of the drawing implement centrally within said housing.

As described above, Murphy fails to claim the transmitter device being used in conjunction with a drawing implement. In Murphy, the tip switch return spring acts between a front end of a tip switch mechanism (6) and an annular shoulder (20). There is no disclosure of any sort of centering element which provides an abutment surface configured to align a rear end of a drawing implement, or even to align the rear end of the tip switch mechanism (6), centrally within the housing (1).

As well, while Epperson discloses an "an ink cartridge, including a spring and cartridge-out/cartridge-in mechanism common to writing instruments", as the Examiner conceded, Epperson does not teach "a primary spring deployed to bias the drawing instrument to a forward position when the normally closed switch is closed". Furthermore, there is no disclosure of a centering element associated with the ink cartridge spring, or of an abutment surface which is configured to align a rear end of a drawing implement.

Applicant therefore submits that, even in combination, Epperson and Murphy fail to meet Claim 31. As well, there is no suggestion, express or implied, that either Epperson or Murphy be modified to meet the claimed invention.

Applicant therefore submits that Claim 31 clearly overcomes the Examiner's rejection under 35 U.S.C. § 103(a) as being unpatentable over Epperson in view of Murphy .

Applicant therefore submits that Claims 29-31, as amended, overcome the Examiner's rejections under 35 U.S.C. § 103(a) as being unpatentable over Epperson in view of Murphy.

CONCLUSION

Applicant therefore respectfully submits that Claims 29-31, as amended, overcome the rejections set forth in the prior Office Action. Applicant also submits that the amendments do not introduce new matter into the Application. Based on the foregoing, Applicant considers the invention to be in condition for allowance. Applicant earnestly solicits the Examiner's withdrawal of the rejections set forth in the prior Office Action, such that a Notice of Allowance is forwarded to Applicant, and the present application is therefore allowed to issue as a United States patent.

Respectfully Submitted,

Michael A. Glenn
Reg. No. 30,176

Customer No. 22862